

Move files from one folder to the respective folders.

E.g current folder have files abc.txt, def.txt, ghi.txt, jkl.txt

You have to move these files to the folder like abc.txt => abc/ , def.txt => def/ ...

Expected outcome -

```
abc/abc.txt
def/def.txt
ghi/ghi.txt
jkl/jkl.txt
```

ADMIN@DESKTOP-NTE5JUC MINGW64 ~

\$ cd desktop

ADMIN@DESKTOP-NTE5JUC MINGW64 ~/desktop

\$ mkdir CIC526

ADMIN@DESKTOP-NTE5JUC MINGW64 ~/desktop

\$ cd CIC526

ADMIN@DESKTOP-NTE5JUC MINGW64 ~/desktop/CIC526

\$ mkdir Day3

ADMIN@DESKTOP-NTE5JUC MINGW64 ~/desktop/CIC526

\$ cd Day3

ADMIN@DESKTOP-NTE5JUC MINGW64 ~/desktop/CIC526/Day3

\$ touch abc.txt def.txt ghi.txt jkl.txt

ADMIN@DESKTOP-NTE5JUC MINGW64 ~/desktop/CIC526/Day3

\$ ls *.txt

abc.txt def.txt ghi.txt jkl.txt

ADMIN@DESKTOP-NTE5JUC MINGW64 ~/desktop/CIC526/Day3

\$ mkdir abc def ghi jkl

ADMIN@DESKTOP-NTE5JUC MINGW64 ~/desktop/CIC526/Day3

\$ mv abc.txt abc

ADMIN@DESKTOP-NTE5JUC MINGW64 ~/desktop/CIC526/Day3

\$ mv def.txt def

ADMIN@DESKTOP-NTE5JUC MINGW64 ~/desktop/CIC526/Day3

\$ mv ghi.txt ghi

ADMIN@DESKTOP-NTE5JUC MINGW64 ~/desktop/CIC526/Day3

\$ mv jkl.txt jkl


ADMIN@DESKTOP-NTE5JUC MINGW64 ~/desktop/CIC526/Day3

```
$ ls */  
abc/:  
abc.txt
```

```
def/:  
def.txt
```

```
ghi/:  
ghi.txt
```

```
jkl/:  
jkl.txt
```

 MINGW64:/c/Users/ADMIN/desktop/CIC526/Day3

```
ADMIN@DESKTOP-NTE5JUC MINGW64 ~/desktop/CIC526/Day3
$ touch abc.txt def.txt ghi.txt jkl.txt
```

```
ADMIN@DESKTOP-NTE5JUC MINGW64 ~/desktop/CIC526/Day3
$ ls *.txt
abc.txt  def.txt  ghi.txt  jkl.txt
```


```
ADMIN@DESKTOP-NTE5JUC MINGW64 ~/desktop/CIC526/Day3
$ mkdir abc def ghi jkl
```

```
ADMIN@DESKTOP-NTE5JUC MINGW64 ~/desktop/CIC526/Day3
$ mv abc.txt abc
```

```
ADMIN@DESKTOP-NTE5JUC MINGW64 ~/desktop/CIC526/Day3
$ mv def.txt def
```

```
ADMIN@DESKTOP-NTE5JUC MINGW64 ~/desktop/CIC526/Day3
$ mv ghi.txt ghi
```

```
ADMIN@DESKTOP-NTE5JUC MINGW64 ~/desktop/CIC526/Day3
$ mv jkl.txt jkl
```

 MINGW64:/c/Users/ADMIN/desktop/CIC526/Day3

```
$ mv def.txt def
```

```
ADMIN@DESKTOP-NTE5JUC MINGW64 ~/desktop/CIC526/Day3
$ mv ghi.txt ghi
```

```
ADMIN@DESKTOP-NTE5JUC MINGW64 ~/desktop/CIC526/Day3
$ mv jkl.txt jkl
```

```
ADMIN@DESKTOP-NTE5JUC MINGW64 ~/desktop/CIC526/Day3
$ ls */
abc/:
abc.txt

def/:
def.txt

ghi/:
ghi.txt

jkl/:
jkl.txt
```

Append current date to all log files name which has extension .log.1 from a folder

E.g original file - access.log.1

New updated file name - access-20102019.log

```
ADMIN@DESKTOP-NTE5JUC MINGW64 ~/desktop/CIC526/Day3
$ touch abc.log.1 def.log.1 ghi.log.1 jkl.log.1
```

```
ADMIN@DESKTOP-NTE5JUC MINGW64 ~/desktop/CIC526/Day3
$ ls *.log.1
abc.log.1  def.log.1  ghi.log.1  jkl.log.1
```

```
ADMIN@DESKTOP-NTE5JUC MINGW64 ~/desktop/CIC526/Day3
$ date "+%D"
05/28/22
```

```
ADMIN@DESKTOP-NTE5JUC MINGW64 ~/desktop/CIC526/Day3
$ mv abc.log.1 abc-28052022.log
```

```
ADMIN@DESKTOP-NTE5JUC MINGW64 ~/desktop/CIC526/Day3
$ mv def.log.1 def-28052022.log
```

```
ADMIN@DESKTOP-NTE5JUC MINGW64 ~/desktop/CIC526/Day3
$ mv ghi.log.1 ghi-28052022.log
```

```
ADMIN@DESKTOP-NTE5JUC MINGW64 ~/desktop/CIC526/Day3
$ mv jkl.log.1 jkl-28052022.log
```

```
ADMIN@DESKTOP-NTE5JUC MINGW64 ~/desktop/CIC526/Day3
$ ls *.log
abc-28052022.log  def-28052022.log  ghi-28052022.log  jkl-28052022.log
```

```

ADMIN@DESKTOP-NTE5JUC MINGW64 ~/desktop/CIC526/Day3
$ touch abc.log.1 def.log.1 ghi.log.1 jkl.log.1

ADMIN@DESKTOP-NTE5JUC MINGW64 ~/desktop/CIC526/Day3
$ ls *.log.1
abc.log.1  def.log.1  ghi.log.1  jkl.log.1

ADMIN@DESKTOP-NTE5JUC MINGW64 ~/desktop/CIC526/Day3
$ date "+%D"
05/28/22

ADMIN@DESKTOP-NTE5JUC MINGW64 ~/desktop/CIC526/Day3
$ mv abc.log.1 abc-28052022.log

ADMIN@DESKTOP-NTE5JUC MINGW64 ~/desktop/CIC526/Day3
$ mv def.log.1 def-28052022.log

ADMIN@DESKTOP-NTE5JUC MINGW64 ~/desktop/CIC526/Day3
$ mv ghi.log.1 ghi-28052022.log

ADMIN@DESKTOP-NTE5JUC MINGW64 ~/desktop/CIC526/Day3
$ mv jkl.log.1 jkl-28052022.log

ADMIN@DESKTOP-NTE5JUC MINGW64 ~/desktop/CIC526/Day3
$ ls *.log
abc-28052022.log  def-28052022.log  ghi-28052022.log  jkl-28052022.log

```

Print last 4 frequently access urls count in sorted order from /var/log/httpd/access.log

- View /var/log/httpd/access.log
- Print field which has urls data.
- Sort extracted urls and count it
- Print 4 unique urls

Expect sample output -

```

3458 /index.html
300 /api/swagger-ui.html
100 /favi.ico
20 /robots.txt

```

```

ADMIN@DESKTOP-NTE5JUC MINGW64 ~/desktop/CIC526/Day3
$ cat access.log

```

```

.
.
.

```

```

ADMIN@DESKTOP-NTE5JUC MINGW64 ~/desktop/CIC526/Day3
$ cat access.log | awk '{print ($ (NF-1) ) }'
+http://www.google.com/bot.html"
http://cloudsystemnetworks.com)"
+http://www.google.com/bot.html)"
+http://www.google.com/bot.html)"
+http://www.google.com/bot.html)"
+http://www.google.com/bot.html)"

```

```
Firefox/62.0"
+http://www.google.com/bot.html)"
+http://www.google.com/bot.html)"
+http://www.google.com/bot.html)"
Favicon"
Favicon"
+http://www.google.com/bot.html)"
+http://www.google.com/bot.html)"
.
.
.
```

ADMIN@DESKTOP-NTE5JUC MINGW64 ~/desktop/cic526/day3

```
$ cat access.log | awk '{print ($ (NF-1) ) }' | sort | uniq -c
```

```
2 "Go-http-client/1.1"
1 "python-requests/2.22.0"
74 +http://www.google.com/bot.html)"
2 +info@netcraft.com)"
16 Favicon"
7 Firefox/3.6.8"
4 Firefox/62.0"
58 Firefox/68.0"
1 Firefox/68.1.1"
33 Firefox/69.0"
3006 Safari/537.36"
6 http://cloudsystemnetworks.com)"
```

ADMIN@DESKTOP-NTE5JUC MINGW64 ~/desktop/cic526/day3

```
$ cat access.log | awk '{print ($ (NF-1) ) }' | sort | uniq -c | head -4
```

```
2 "Go-http-client/1.1"
1 "python-requests/2.22.0"
74 +http://www.google.com/bot.html)"
2 +info@netcraft.com)"
```

```

ADMIN@DESKTOP-NTE5JUC MINGW64 ~/desktop/CIC526/Day3
$ cat access.log | awk '{print ($ (NF-1) ) }' | sort | uniq -c
  2 "Go-http-client/1.1"
  1 "python-requests/2.22.0"
74 +http://www.google.com/bot.html)"
  2 +info@netcraft.com)"
16 favicon"
  7 Firefox/3.6.8"
  4 Firefox/62.0"
58 Firefox/68.0"
  1 Firefox/68.1.1"
33 Firefox/69.0"
3006 Safari/537.36"
  6 http://cloudsystemnetworks.com)"

ADMIN@DESKTOP-NTE5JUC MINGW64 ~/desktop/CIC526/Day3
$ cat access.log | awk '{print ($ (NF-1) ) }' | sort | uniq -c | head -4
  2 "Go-http-client/1.1"
  1 "python-requests/2.22.0"
74 +http://www.google.com/bot.html)"
  2 +info@netcraft.com)"

```

Print list of last 4 frequently access unique urls at particular hours from /var/log/httpd/access.log

- View access.log without opening it using editor.
- Print urls which has given timestamp.
- Sort extracted urls and count it
- Print 4 unique urls

Expect sample output -

```

3458 /index.html
300 /api/swagger-ui.html
100 /favi.ico
20 /robots.txt

```

```

ADMIN@DESKTOP-NTE5JUC MINGW64 ~/desktop/CIC526/Day3

```

```

$ cat access.log | awk '{print $4 , $ (NF-1) }'
[11/Sep/2019:22:54:52 +http://www.google.com/bot.html)"
[14/Sep/2019:06:36:37 http://cloudsystemnetworks.com)"
[14/Sep/2019:18:56:46 +http://www.google.com/bot.html)"
[14/Sep/2019:18:56:46 +http://www.google.com/bot.html)"
[14/Sep/2019:20:44:44 +http://www.google.com/bot.html)"
[15/Sep/2019:13:56:11 +http://www.google.com/bot.html)"
[15/Sep/2019:17:37:56 Firefox/62.0"
.

```


ADMIN@DESKTOP-NTE5JUC MINGW64 ~/desktop/CIC526/Day3

```
$ cat access.log | awk '{print $4 , $ (NF-1) }' | sort
```

```
[01/Oct/2019:05:44:10 Firefox/68.0"
[01/Oct/2019:05:44:12 Firefox/68.0"
[01/Oct/2019:05:44:12 Firefox/68.0"
[01/Oct/2019:05:44:12 Firefox/68.0"
[01/Oct/2019:05:44:12 Firefox/68.0"
[01/Oct/2019:05:44:13 Firefox/68.0"
[01/Oct/2019:05:44:13 Firefox/68.0"
[01/Oct/2019:05:46:39 Firefox/68.0"
[01/Oct/2019:05:46:41 Firefox/68.0"
```

ADMIN@DESKTOP-NTE5JUC MINGW64 ~/desktop/CIC526/Day3

```
$ cat access.log | awk '{print $4 , $ (NF-1) }' | sort | uniq -c | head -4
```

```
1 [01/Oct/2019:05:44:10 Firefox/68.0"
4 [01/Oct/2019:05:44:12 Firefox/68.0"
2 [01/Oct/2019:05:44:13 Firefox/68.0"
1 [01/Oct/2019:05:46:39 Firefox/68.0"
```

ADMIN@DESKTOP-NTE5JUC MINGW64 ~/desktop/CIC526/Day3

```
$ cat access.log | awk '{print $4 , $ (NF-1) }' | sort | uniq -c | head -4
```

```
1 [01/Oct/2019:05:44:10 Firefox/68.0"
4 [01/Oct/2019:05:44:12 Firefox/68.0"
2 [01/Oct/2019:05:44:13 Firefox/68.0"
1 [01/Oct/2019:05:46:39 Firefox/68.0"
```

Print list of web response code count in the unique sorted order at specific hours

- a) View access.log without opening it using editor.
- b) Print web response code field which has given timestamp
- c) Sort extracted response code and count it
- d) Print 4 unique response code count

Expected sample output -

```
1000 200
100 304
```

ADMIN@DESKTOP-NTE5JUC MINGW64 ~/desktop/CIC526/Day3

```
$ cat access.log | awk '{print $9, $9}'
```

```
200 200
```



```
200 200
200 200
200 200
200 200
200 200
200 200
200 200
```

```
.
```

ADMIN@DESKTOP-NTE5JUC MINGW64 ~/desktop/CIC526/Day3

```
$ cat access.log | awk '{print $9, $9 }' | sort
```

```
200 200
200 200
200 200
200 200
200 200
200 200
200 200
```

```
.
```

ADMIN@DESKTOP-NTE5JUC MINGW64 ~/desktop/CIC526/Day3

```
$ cat access.log | awk '{print $9, $9 }' | sort | uniq -c
```

```
3176 200 200
  8 206 206
 26 304 304
```

```
ADMIN@DESKTOP-NTE5JUC MINGW64 ~/desktop/CIC526/Day3
$ cat access.log | awk '{print $9, $9 }' | sort | uniq -c
 3176 200 200
    8 206 206
   26 304 304
```

Print list of last 10 unique sorted client IP from /var/log/httpd/access.log

- a) View access.log without opening it using editor.
- b) Print client ip field from access log
- c) Sort extracted client IP and count it
- d) Print 4 unique client IPs

Expect sample output -

```
3635 107.181.177.135
423 27.62.203.44
45 157.44.195.138
4 157.39.158.225
```

ADMIN@DESKTOP-NTE5JUC MINGW64 ~/desktop/CIC526/Day3

```
$ cat access.log | awk '{print $1 }'
```

```
10.56.2.2
10.56.22.3
10.56.19.3
10.56.19.3
10.56.4.2
```

```
10.56.3.4
10.56.4.2
10.56.0.3
10.56.0.3
10.56.0.3
```

```
.
```

```
ADMIN@DESKTOP-NTE5JUC MINGW64 ~/desktop/CIC526/Day3
```

```
$ cat access.log | awk '{print $1 }' | sort
```

```
10.56.0.3
10.56.0.3
10.56.0.3
10.56.0.3
10.56.0.3
10.56.0.3
10.56.0.3
10.56.0.3
10.56.0.3
10.56.0.3
10.56.0.3
10.56.0.3
```

```
.
```

```
ADMIN@DESKTOP-NTE5JUC MINGW64 ~/desktop/CIC526/Day3
```

```
$ cat access.log | awk '{print $1 }' | sort | uniq -c
```

```
261 10.56.0.3
283 10.56.1.3
213 10.56.10.2
345 10.56.19.3
383 10.56.2.2
323 10.56.21.2
251 10.56.22.3
214 10.56.3.4
9 10.56.34.4
242 10.56.4.2
7 10.56.44.4
40 10.56.46.2
168 10.56.5.2
285 10.56.6.4
186 10.56.9.3
```

```
ADMIN@DESKTOP-NTE5JUC MINGW64 ~/desktop/CIC526/Day3
```

```
$ cat access.log | awk '{print $1 }' | sort | uniq -c | tail -10
```

```
323 10.56.21.2
251 10.56.22.3
214 10.56.3.4
9 10.56.34.4
```

```
242 10.56.4.2
7 10.56.44.4
40 10.56.46.2
168 10.56.5.2
285 10.56.6.4
186 10.56.9.3
```

```
ADMIN@DESKTOP-NTE5JUC MINGW64 ~/desktop/CIC526/Day3
$ cat access.log | awk '{print $1 }' | sort | uniq -c | tail -10
323 10.56.21.2
251 10.56.22.3
214 10.56.3.4
9 10.56.34.4
242 10.56.4.2
7 10.56.44.4
40 10.56.46.2
168 10.56.5.2
285 10.56.6.4
186 10.56.9.3
```

Data analysis / manipulation (Awk)

Id	Employee Name	Job Title	Base Pay	Overtime Pay	Other Pay	Total Pay	TotalPayBenefits
1	NATHANIEL	GM	167411	0	400184	567595	567595
2	GARY	CAPTAIN	155966	245131	137811	538909	538909
3	ALBERT	CAPTAIN	212739	106088	16452	335279	335279
4	CHRISTOPHER	MECHANIC	77916	56120	198306	332343	32343
5	PATRICK	DEPUTY CHIEF	134401	9737	182234	326373	326373
6	DAVID	ASST DEPUTY	118602	8601	189082	316285	316285
7	ALSON	BATTALION CHIEF	92492	89062	134426	315981	315981
8	DAVID	DEPUTY DIRECTOR	256576	0	51322	307899	307899
10	JOANNE	CHIEF	285262	0	17115	302377	302377
12	PATRICIA	CAPTAIN	99722	87082	110804	297608	297608
13	EDWARD	EXECUTIVE	294580	0	0	294580	294580

i) Print EmployeeName and TotalPay who has BasePay greater than 10000

- a) Read data file 'data.csv' from command line and extract rows which have BasePay > 10000
- b) Print only EmployeeName and TotalPay

```
ADMIN@DESKTOP-NTE5JUC MINGW64 ~/desktop/CIC526/Day3
```

```
$ cat dataanalysis.csv
```

```
Id EmployeeName JobTitle BasePay OvertimePay OtherPay TotalPay TotalPayBenefits
1 NATHANIEL GM 167411 0 400184 567595 567595
2 GARY CAPTAIN 155966 245131 137811 538909 538909
3 ALBERT CAPTAIN 212739 106088 16452 335279 335279
4 CHRISTOPHER MECHANIC 77916 56120 198306 332343 332343
5 PATRICK DEPUTYCHIEF 134401 9737 182234 326373 326373
6 DAVID ASSTDEPUTY 118602 8601 189082 316285 316285
7 ALSON BATTALIONCHIEF 92492 89062 134426 315981 315981
```

8	DAVID	DEPUTYDIRECTOR	256576	0	51322	307899	307899
10	JOANNE	CHIEF	285262	0	17115	302377	302377
12	PATRICIA	CAPTAIN	99722	87082	110804	297608	297608
13	EDWARD	EXECUTIVE	294580	0	0	294580	294580

ADMIN@DESKTOP-NTE5JUC MINGW64 ~/desktop/CIC526/Day3

\$ cat dataanalysis.csv | awk '{ if (\$4 >= 10000) print \$0 }'

Id	EmployeeName	JobTitle	BasePay	OvertimePay	OtherPay	TotalPay	TotalPayBenefits
1	NATHANIEL	GM	167411	0	400184	567595	567595
2	GARY	CAPTAIN	155966	245131	137811	538909	538909
3	ALBERT	CAPTAIN	212739	106088	16452	335279	335279
4	CHRISTOPHER	MECHANIC	77916	56120	198306	332343	332343
5	PATRICK	DEPUTYCHIEF	134401	9737	182234	326373	326373
6	DAVID	ASSTDEPUTY	118602	8601	189082	316285	316285
7	ALSON	BATTALIONCHIEF	92492	89062	134426	315981	315981
8	DAVID	DEPUTYDIRECTOR	256576	0	51322	307899	307899
10	JOANNE	CHIEF	285262	0	17115	302377	302377
12	PATRICIA	CAPTAIN	99722	87082	110804	297608	297608
13	EDWARD	EXECUTIVE	294580	0	0	294580	294580

ADMIN@DESKTOP-NTE5JUC MINGW64 ~/desktop/CIC526/Day3

\$ cat dataanalysis.csv | awk '{ if (\$4 >= 10000) print \$2, \$7 }'

EmployeeName TotalPay
 NATHANIEL 567595
 GARY 538909
 ALBERT 335279
 CHRISTOPHER 332343
 PATRICK 326373
 DAVID 316285
 ALSON 315981
 DAVID 307899
 JOANNE 302377
 PATRICIA 297608
 EDWARD 294580

```

ADMIN@DESKTOP-NTE5JUC MINGW64 ~/desktop/CIC526/Day3
$ cat dataanalysis.csv | awk '{ if ( $4 >= 10000) print $0 }'
Id EmployeeName JobTitle BasePay OvertimePay OtherPay TotalPay TotalPayBenefits
1 NATHANIEL GM 167411 0 400184 567595 567595
2 GARY CAPTAIN 155966 245131 137811 538909 538909
3 ALBERT CAPTAIN 212739 106088 16452 335279 335279
4 CHRISTOPHER MECHANIC 77916 56120 198306 332343 332343
5 PATRICK DEPUTYCHIEF 134401 9737 182234 326373 326373
6 DAVID ASSTDEPUTY 118602 8601 189082 316285 316285
7 ALSON BATTALIONCHIEF 92492 89062 134426 315981 315981
8 DAVID DEPUTYDIRECTOR 256576 0 51322 307899 307899
10 JOANNE CHIEF 285262 0 17115 302377 302377
12 PATRICIA CAPTAIN 99722 87082 110804 297608 297608
13 EDWARD EXECUTIVE 294580 0 0 294580 294580

ADMIN@DESKTOP-NTE5JUC MINGW64 ~/desktop/CIC526/Day3
$ cat dataanalysis.csv | awk '{ if ( $4 >= 10000) print $2, $7 }'
EmployeeName TotalPay
NATHANIEL 567595
GARY 538909
ALBERT 335279
CHRISTOPHER 332343
PATRICK 326373
DAVID 316285
ALSON 315981
DAVID 307899
JOANNE 302377
PATRICIA 297608
EDWARD 294580

```

ii) What is the aggregate TotalPay of employees whose jobtitle is 'CAPTAIN'

- Read data file 'data.csv' from command line and extract rows which have 'CAPTAIN' in the column 'jobtitle'
- Extract TotalPay and calculate sum. Print the result on terminal.

```

ADMIN@DESKTOP-NTE5JUC MINGW64 ~/desktop/CIC526/Day3
$ cat dataanalysis.csv | grep -i captain
2 GARY CAPTAIN 155966 245131 137811 538909 538909
3 ALBERT CAPTAIN 212739 106088 16452 335279 335279
12 PATRICIA CAPTAIN 99722 87082 110804 297608 297608

```

```

ADMIN@DESKTOP-NTE5JUC MINGW64 ~/desktop/CIC526/Day3
$ cat dataanalysis.csv | grep -i captain | awk '{ total += $7; count ++} END { print total/count}'
390599

```



```

ADMIN@DESKTOP-NTE5JUC MINGW64 ~/desktop/CIC526/Day3
$ cat dataanalysis.csv | grep -i captain
2  GARY      CAPTAIN      155966  245131      137811  538909  538909
3  ALBERT    CAPTAIN      212739  106088      16452   335279  335279
12 PATRICIA   CAPTAIN      99722   87082       110804  297608  297608

ADMIN@DESKTOP-NTE5JUC MINGW64 ~/desktop/CIC526/Day3
$ cat dataanalysis.csv | grep -i captain | awk '{ total += $7; count ++} END { print total/count}'
390599

```

iii) Print JobTitle and Overtimepay who has Overtimepay is between 7000 and 10000

- Read data file 'data.csv' from command line and extract jobtitle and overtimepay for column value range between 7000-10000
- Print the result on terminal.

```

ADMIN@DESKTOP-NTE5JUC MINGW64 ~/desktop/CIC526/Day3
$ cat dataanalysis.csv | awk '{ if ( $5 < 10000 && $5 > 7000 ) print $3, $5}'
DEPUTYCHIEF 9737
ASSTDEPUTY 8601

```

```

ADMIN@DESKTOP-NTE5JUC MINGW64 ~/desktop/CIC526/Day3
$ cat dataanalysis.csv | awk '{ if ( $5 < 10000 && $5 > 7000 ) print $3, $5}'
DEPUTYCHIEF 9737
ASSTDEPUTY 8601

```

iv) Print average BasePay

- Read data file 'data.csv' from command line and extract BasePay values and calculate its average
- Print the result on terminal.

```

ADMIN@DESKTOP-NTE5JUC MINGW64 ~/desktop/CIC526/Day3
$ cat dataanalysis.csv | awk '{ t += $4; c++ } END { print t/c }'
157972

```

```

ADMIN@DESKTOP-NTE5JUC MINGW64 ~/desktop/CIC526/Day3
$ cat dataanalysis.csv | awk '{ t += $4; c++ } END { print t/c }'
157972

```

Find the difference between original file and the updated file.
Apply changes to the original file.

- Create two directories as "original" and "updated"
- Copy given file 'original-file.sh' to the folder "original" and "updated-file.sh" to the folder "updated"
- Find the difference between these directories using linux command
- Make copy of folder "original" to some other directory as "original-backup" and apply changes to 'original-file.sh' file
- Verify that both folders "updated" and "original-backup" have no difference.

ADMIN@DESKTOP-NTE5JUC MINGW64 ~/desktop/CIC526/Day3
\$ mkdir original updated


ADMIN@DESKTOP-NTE5JUC MINGW64 ~/desktop/CIC526/Day3
\$ touch original-file.sh updated-file.sh

ADMIN@DESKTOP-NTE5JUC MINGW64 ~/desktop/CIC526/Day3
\$ cp original-file.sh original

ADMIN@DESKTOP-NTE5JUC MINGW64 ~/desktop/CIC526/Day3
\$ cp updated-file.sh updated

ADMIN@DESKTOP-NTE5JUC MINGW64 ~/desktop/CIC526/Day3
\$ diff original updated
Only in original: original-file.sh
Only in updated: updated-file.sh

ADMIN@DESKTOP-NTE5JUC MINGW64 ~/desktop/CIC526/Day3
\$ cp -r original updated/original-backup

 MINGW64:/c/Users/ADMIN/desktop/CIC526/Day3

```
ADMIN@DESKTOP-NTE5JUC MINGW64 ~/desktop/CIC526/Day3
$ mkdir original updated
```

```
ADMIN@DESKTOP-NTE5JUC MINGW64 ~/desktop/CIC526/Day3
$ touch original-file.sh updated-file.sh
```

```
ADMIN@DESKTOP-NTE5JUC MINGW64 ~/desktop/CIC526/Day3
$ cp original-file.sh original
```

```
ADMIN@DESKTOP-NTE5JUC MINGW64 ~/desktop/CIC526/Day3
$ cp updated-file.sh updated
```

```
ADMIN@DESKTOP-NTE5JUC MINGW64 ~/desktop/CIC526/Day3
$ diff orinignal updated
diff: orinignal: No such file or directory
```

```
ADMIN@DESKTOP-NTE5JUC MINGW64 ~/desktop/CIC526/Day3
$ diff original updated
Only in original: original-file.sh
Only in updated: updated-file.sh
```